

# Iowa Weatherization Program

The Weatherization Assistance Program is a low-income energy efficiency program

# Program Purpose

- To make the homes of low-income clients more energy efficient.
- To reduce the clients' fuel bills and increase their comfort.
- To improve the health and safety of low-income homes by identifying and mitigating health and safety problems such as carbon monoxide, combustion appliance back-drafting and high indoor moisture levels.

# Program Overview

- The Weatherization Program is a federal grant program authorized by Title IV of the Energy Conservation and Production Act.
- It was created in 1976 in response to the oil crisis of the 1970's.
- It was part of an overall national effort to conserve energy so the United States would be less dependent on foreign oil. Since then, the program has emerged as the leading residential energy program in the country.

# Program Overview

- The U.S. Department of Energy (DOE) has the responsibility for administering the program. DOE provides grants to the states for the administration of the program at the state level. States must administer the program in accordance with DOE rules and regulations.
- The Division of Community Action Agencies (DCAA), Bureau of Weatherization, administers the program for Iowa.

# Program Mission

- The Weatherization Program's mission is to enhance the well-being of low-income residents, particularly those persons who are most vulnerable such as the elderly, the handicapped, and children, through the installation of energy efficient and energy-related health and safety measures, thus benefiting clients through reduced energy bills, enhanced comfort, and the mitigation of energy-related health risks

# Program Eligibility

A household is eligible for assistance under the Iowa Weatherization Program if:

- The household is receiving Supplemental Security Income (SSI) or Family Investment Program (FIP) Assistance, regardless of income or,
- The household's annual income is at, or below, 150 percent of the poverty level, as established by the Office of Management and Budget

# Program Eligibility

- Because Iowa uses the same income level for determining eligibility for the Weatherization Program and Iowa's Low-Income Home Energy Assistance Program (LIHEAP), clients who are determined to be eligible for LIHEAP are automatically eligible for Weatherization
- Weatherization services are provided to both homeowners and renters. Before rental units are weatherized, landlords of the rental properties must agree to and sign a landlord agreement.

# Program Funding

- There are currently (3) sources of funding for the program
  - DOE funds
  - HEAP funds
  - Utility funds



# DOE funding

- DOE funds are allocated to the state in the form of a grant from the Department of Energy

# HEAP funding

- HEAP funds come from the state's LIHEAP funds. State legislation requires that up to 15 percent of the state's annual LIHEAP allocation be given to the Weatherization Program

# Utility funding

- The final source of funds is funds from the investor-owned utilities. The state's investor-owned utilities have been providing funds to the program since 1992.

# 2003 Funding Level

- DOE: \$ 4,902,155
- HEAP: \$ 5,327,400
- O/C: \$ 50,000
- Utility: \$ 2,247,970
- Total: \$12,527,525

# Statistics & Demographics

- Average number of homes weatherized per year: 1,900+
- Number of homes weatherized since 1980: 113,000+
- Average number of household members: 2.6
- Average household gross income: \$13,128

# Statistics & Demographics

## Household Characteristics

- Elderly: 37%
- Disabled: 46%
- Young child: 14%
- Renters: 4%

## Housing Type

- Single-family: 92%
- Mobile home: 7%
- Other: 1%

# Statistics & Demographics

## Heating System Type

- Natural gas 84%
- Propane: 12%
- Fuel Oil: 1%
- Other: 3%

## Air Conditioning

- Central air: 42%
- Room air: 45%
- None: 13%

# Program Benefits

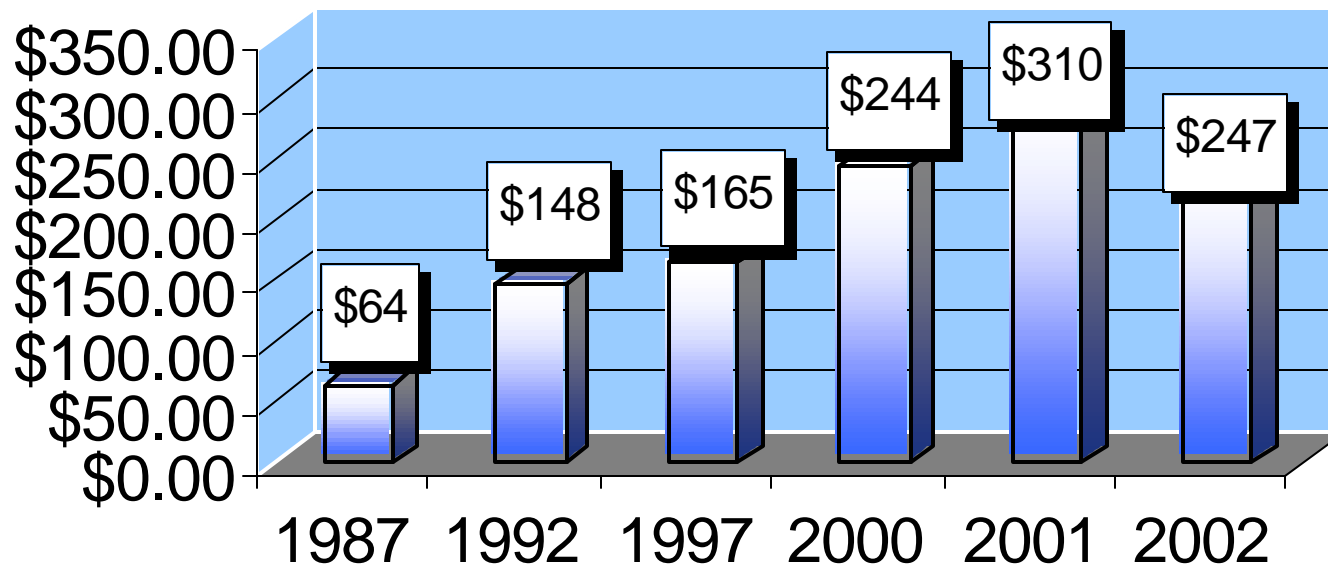
## Energy Savings

An evaluation of the Iowa Weatherization Program found that for the homes weatherized by the program in 2002, there was an average savings of \$247 per household per year in heating and electric costs. Over 20 years this would result in a savings of \$5,000 per household. The savings result in about than \$9.5 million in savings over 20 years just for the homes weatherized in the year 2002.



# Program Benefits

Average Annual Client Energy Bill Savings



# Program Benefits

## Savings to Investment Ratio (SIR)

- The saving to investment ratio is 1.4. That means that for every \$1.00 spent on the homes, \$1.40 is saved in energy costs. When costs involved with evaluating and inspecting the homes and overhead costs (equipment, vehicles, etc.) are removed and just the labor and material cost on the homes is considered, the savings to investment ration is 1.9.

# Program Benefits

## Non-Energy Benefits

- Federal funding of the program brings millions of dollars into Iowa while reducing the flow of money out of Iowa for imported energy

# Program Benefits

## **Other Non-Energy Benefits Include:**

- Improved client health and safety through the identification and mitigation of carbon monoxide problems, moisture problems, and other indoor air quality problems
- Retention of affordable housing for low-income persons
- Reduced utility arrearages
- Reduced homelessness
- Reduced environmental pollution as a result of reducing the amount of toxic air emissions.

# Program Year

- The program year for the Weatherization Program is from April 1 through March 31.

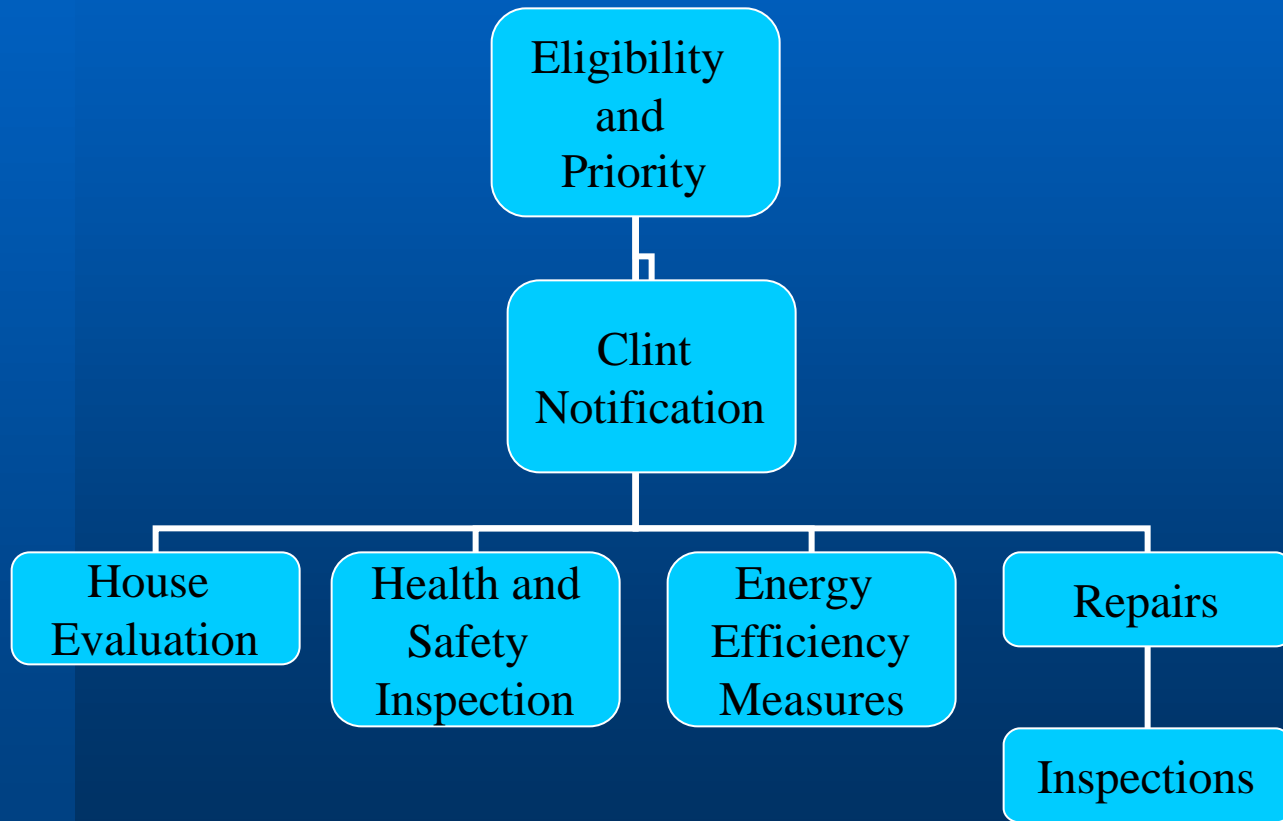
# State Plan

- We are required to submit a state plan to DOE each year. The state plan has to be sent to DOE 60 days prior to the start of the new program year.

# Evaluation

- The bureau and investor-owned utilities have co-funded an annual evaluation of the Iowa Weatherization Program since the early 1990's. The evaluation report is called the SLICE Report.

# How The Weatherization Process Works





# Eligibility & Client Priority

- Weatherization gets the majority of its applicants from the pool of clients who are eligible for the LIHEAP Program. The LIHEAP department in each local agency provides the weatherization department the list of LIHEAP clients. Persons who have not applied for LIHEAP may also apply for weatherization.
- Each year, there are more clients who are eligible for the Weatherization Program than can be served during the year. Therefore, it is necessary to select homes that will be weatherized on the basis of a priority system. Clients with the highest priority points are served first.

# Eligibility & Client Priority

- Client priority is based on an estimate of annual client bill savings for heating, water heating, and air conditioning measures. Additional priority is given if any household members are elderly, disabled, or young children.
- Exceptions to the client priority are allowed in emergency situations, such as when a heating system quits working during cold weather. Exceptions are also allowed if agencies need to assist a lower priority client in order to spend utility funds.

# Client Notification

- After selecting an eligible client, the local agencies notify the client that he or she is eligible for weatherization services. If the client is the owner of the eligible dwelling, the client's consent must be obtained prior to providing service.
- If the client is a renter, the client's landlord must provide written consent authorizing the dwelling to be weatherized. This written consent is done through the use of a Landlord Agreement.

# House Evaluation

Upon receiving consent from the client or landlord (if the dwelling is a rental unit) the local agency schedules a time to evaluate the client's house. The evaluation involves three (3) steps.

- 1 The first step is to determine whether the house should even be worked on. Some houses cannot be worked on either because of their condition or other factors. The program has a “walk away” policy that lists several factors that may prevent the agency from working on a house.

# House Evaluation

- This home would be under the walk away policy (too mobile)



# House Evaluation

- This home would be ok



# House Evaluation

- 2 The house must be inspected to determine if health and safety problems exist. If health and safety problems are found, depending on the type of problem and the severity, the house may not be able to be worked on until the problem is taken care of either by the program (if allowed) or by the client.
- 3 The final step of the evaluation is to determine what energy efficiency measures should be done to the house.

# House Evaluation

A typical evaluation may take up to four (4) hours to complete at the house and an additional three (3) hours in the office to complete the paper work.



# Heath and Safety Inspection

A major part of the evaluation of homes is the health and safety inspection. The health and safety inspection includes the following:

# Heath and Safety Inspection

- Test all combustion appliances in the home for carbon monoxide
- Check the heat rise and fan “on” and fan “off” temperatures on the furnace
- Check the condition of the furnace heat exchanger
- Test all combustion appliances for spillage and drafting
- Take baseline pressure readings
- Check all gas lines for leaks
- Check for friable asbestos
- Check for potential moisture problems

# Heath and Safety Inspection

- Test all combustion appliances in the home for carbon monoxide



# Heath and Safety Inspection

- Check condition of the furnace heat exchanger (These are cracks in the heat exchanger)



# Heath and Safety Inspection

- Test all combustion appliances for spillage and drafting



# Heath and Safety Inspection

- Check for potential moisture problems



# Heath and Safety Inspection

**Health and safety problems mitigated by the program include:**

- Repair and replacement of unsafe furnaces and water heaters (unless client is a renter)
- Install/repair gas dryer vents
- Repair gas leaks
- Seal heating system ducts
- Installation of ventilation fans
- Installation of carbon monoxide alarms and smoke alarms



# Heath and Safety Inspection

- Repair and replacement of unsafe furnaces and water heaters (unless client is a renter)





# Heath and Safety Inspection

- Install/repair gas dryer vents



# Heath and Safety Inspection

- Installation of ventilation fans



# Health and Safety Inspection

- Workers employed by the agency do some of the health and safety hazard mitigation work. Private contractors usually do furnace and water heater repair/replacement work.
- Health and safety problems, not covered by program funds, must be mitigated by the client or landlord. These problems must be taken care of before energy efficiency measures will be started.

# Energy Efficiency Measures

- A computerized site-specific energy audit is done on all homes to determine what measures will be completed. Only measures resulting in a minimum 1.0 saving to investment ratio are called for by the audit. The audit used is the Department of Energy's National Energy Audit or NEAT Audit.

# Energy Efficiency Measures

Typical energy efficiency measures include:

- Attic, wall, and floor/crawlspace insulation
- Infiltration reduction (air leakage sealing)
- Water heater wraps & water pipe insulation
- Low-flow shower heads & faucet aerators
- Heating system tuning and cleaning
- Refrigerator and freezer replacement
- Compact fluorescent light bulb installation

The energy efficiency work is either done by employees of the local agencies or by private contractors.

# Energy Efficiency Measures

- Attic, wall, and floor/ crawlspace insulation



# Energy Efficiency Measures

- Infiltration reduction (air leakage sealing) by using a blower door



# Repair

- Minor repair work can be done using program funds. An example of this is repairing a leaky roof.



# Installation Frequencies and Average Energy Savings

Percent of weatherized homes receiving the following measures in 2002:

- Infiltration reduction – 96%
- Attic insulation – 83%
- Wall insulation – 68%
- Compact fluorescent lighting – 66%
- Heating system replacement – 44%
- Floor/crawlspace insulation – 35%
- Refrigerator replacement – 31%
- Freezer replacement – 10%

# Installation Frequencies and Average Energy Savings

Measures that result in the greatest space heating savings (in order)

- High efficiency heating system replacement
- Wall insulation
- Standard efficiency heating system replacement
- Attic insulation
- Floor/crawlspace insulation

# Installation Frequencies and Average Energy Savings

Measures that result in the greatest electric savings (in order)

- Freezer replacement
- Refrigerator replacement
- Heating system replacement
- Compact fluorescent lighting

# Inspection

- Local agencies must inspect all homes weatherized. The inspectors may require the crews/contractors to return to a home to do additional work or to correct problems that are found.
- State personnel inspect a percentage of homes weatherized by each local agency.

# Weatherization Reporting System

- Local agencies submit fiscal reports and program data to the state on a monthly basis using a computerized reporting program.

# Bureau Responsibilities

The main responsibilities of the bureau include the following:

- Prepare and submit the annual state plan to DOE
- Conduct annual compliance monitoring of the local agencies. This involves monitoring the agencies' financial operations, program operations, and inspecting a percentage of the homes each agency weatherizes.
- Provide training and technical assistance to the agencies in the areas of weatherization technology and techniques and program operations.

# Bureau Responsibilities

- Complete and submit the annual state plan and quarterly financial and program reports to DOE.
- Establish weatherization work standards.
- Prepare contracts for all six funding sources for each agency. Process monthly financial claims from agencies. Review monthly program data reports from each agency and reconcile program information with financial information.
- Complete and submit financial and program data reports to the utility companies.

# Bureau Responsibilities

- Complete and submit quarterly financial and program reports to DOE.
- Manage the computerized reporting system and provide technical assistance to the agencies.
- Maintain a state-wide database of completed homes for statistical reporting.
- Help agencies with “problem” houses.



# Bureau Staff

In addition to the Bureau Chief, Jim Newton, there are 5 staff in the Bureau of Weatherization.

- Mark Bergmeier – Program Planner
- Gwen Howe – Program Planner
- Mike Speed – Program Planner
- Christine Taylor – Program Planner
- Rosemary Hoover – Accountant (shared with other bureaus)

The End